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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/626,225

07/24/2003

Naoyuki Enjoji

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EXAMINER

RHEE, JANE J

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/626,225	<b>Applicant(s)</b> ENJOJI ET AL.	
	<b>Examiner</b> JANE RHEE	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/19/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/18/08 has been entered.

### ***Rejections Repeated***

#### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shimotori et al.

As to claims 1, Shimotori et al. discloses a fuel cell formed by stacking a plurality of unit cells in a stacking direction (figure 3), wherein unit cells includes a first separator, a second separator and an electrolyte electrode assembly that is sandwiched between the first and second separators, the electrolyte assembly includes a pair of electrodes

Art Unit: 1795

and an electrolyte interposed between the electrodes (figure 3 number 8a,8b,8c), wherein the electrodes have a substantially square shape having a side length in a range of 140mm to 200mm, the first and second separators have a substantially square shape having a side length in a range of 200mm to 300mm (col. 9 lines 36-38, also in col. 7 lines 41-44 it is well known in the art to provide square shaped electrodes and separators), at least one of the first separator and the second separator has a reactant gas supply passage formed in a first side portion, a reactant gas discharge passage formed in a second side portion opposite the first side portion, a reactant flow passage formed on a first surface facing the electrodes, the reactant gas flow being formed along a substantial portion of the first surface in a direction from the first side portion to the second side portion (figure 4a number 11,13b and 13a), a coolant supply passage formed in a third side portion, a coolant discharge passage formed in a fourth side portion opposite the third side portion, and a coolant flow passage formed on a second surface opposite the first surface the coolant flow passage being formed along a substantial portion of the second surface in a direction from the third side portion to the fourth side portion and connected to the coolant supply passage and the coolant discharge passage (figure 10a number 15, see also the coolant passages in figure 27b and 28b, number 102b).

As to “for supplying a reactant gas along the electrodes”, and “for supplying a coolant while in a direction in which the reactant gas flows crosses a direction in which the coolant flows” are intended uses. It has been held that a recitation with respect to the manner in which the claimed particle is intended to be employed does not

Art Unit: 1795

differentiate the claimed article from a prior art article satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987)

As to claim 2, Shimotori et al. discloses a reactant gas supply passage and a reactant gas discharge passage extend through two parallel side portions of the first and second separators (figure 10 number 24a,24b), in the stacking direction, and a coolant supply passage and a coolant discharge passage extend through other two parallel side portions of the first and second separators in the stacking direction (figure 10a number 15) wherein the coolant supply passage is in fluid communication with the coolant discharge passage through the coolant flow passage (figure 10a number 15).

As to claim 3, Shimotori et al. discloses that the centers of the electrodes are substantially in alignments with the centers of the first and second separators (figure 3 number 10 and 8). As to claim 4, Shimotori et al. discloses that the reactant gas supply passage and the reactant gas discharge passage are formed symmetrically on a surface of the first and second separators (figure 10a number 24a,24b). As to claim 5, Shimotori et al. discloses a straight reactant gas flow passage connecting the reactant gas supply and the reactant gas discharge passage is formed on the surface of the first and second separators for supplying a reactant gas to the electrode (figure 10a number 11).

As to the limitation "the fuel cell stack being used for selectively forming a first assembly, second assembly, a third assembly, and a fourth assembly depending on conditions for installing the fuel cell stack in the vehicle, wherein...the fourth assembly is formed by arranging four fuel cell stacks in square shape in a front view such that the

stacking direction is oriented substantially horizontally” is an intended use. It has been held that a recitation with respect to the manner in which the claimed particle is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987)

### ***Response to Arguments***

3. Applicant's arguments filed 8/10/07 have been fully considered but they are not persuasive.

In response to applicant's argument that Shimotori reference does not teach or suggest that “a coolant flow passage is formed along a substantial portion of the second surface of the first separator and the second surface of the second separator such that a coolant flows along the substantial portion of the second surface of the first surface and the second surface of the second separator while a direction in which the reactant gas flows crosses a direction in which the coolant flows”, Shimotori does teach a coolant flow passage is formed along a substantial portion of the second surface of the first separator and the second surface of the second separator such that a coolant flows along the substantial portion of the second surface of the first surface and the second surface of the second separator while a direction in which the reactant gas flows crosses a direction in which the coolant flows in figure 10a number 15 because the top portion and bottom portion of the separator where number 15 is located is considered as the 'substantial portion' of the second surface of the first and second separators. Shimotori reference teaches that all the upper and lower portions of the separator including the peripheral portions of each separator around the gas passages be used as

Art Unit: 1795

coolant passages and in figure 26, Shimotori discloses the coolant passage being formed along a substantial portion of the second surface in a direction from the third side portion to the forth side portion and connected to the coolant supply passage and the coolant discharge passage. Even though the front end plate and the rear end plate illustrates that the coolant passage is formed along a substantial portion of the second surface in a direction from the third side portion to the forth side portion and connected to the coolant supply passage and the coolant discharge passage, the separators next to the front end plate and the rear end plate would also have a coolant passage formed along a substantial portion of the second surface in a direction from the third side portion to the forth side portion and connected to the coolant supply passage and the coolant discharge passage because the coolant passage would be inbetween the separator and the end plates therefore the separator and the end plates would share the coolant passages.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANE RHEE whose telephone number is (571)272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jane Rhee/  
Primary Examiner, Art Unit 1795